

## AMENDMENTS TO THE SPECIFICATION

*Please amend the Specification as follows:*

*Please amend the paragraph beginning on line 1 of page 6 as follows:*

During operation 1, after achieving re-timing at a D-flip-flop 112, data and a clock are input to a current switch unit 113. During this process, an operational amplifier 122 is driven via a D/A converter 120 by the data stored in the data storage unit 119 and, as a result, ~~a~~ an electric current flows to a transistor Tr 116. By storing correct data at the data storage unit 119, a specific level of light output power is obtained at a laser diode 114.

*Please amend the paragraph beginning on line 22 of page 8 as follows:*

First, mode ~~something~~ setting 1 is achieved by engaging mode selector circuits 260, 267, 264 and 271. A first mode selector circuit 260 is set so as to short a first wiring 272 and a second wiring 273, and the second mode selector circuit 267 is set so as to short a third wiring 274 and a fourth wiring 275. Likewise, the third mode selector circuit 264 is set so as to open a fifth wiring 276 and a sixth wiring 277 and the fourth mode selector circuit 271 is set so as to open a seventh wiring 278 and an eighth wiring 279.

*Please amend the paragraph beginning on line 14 of page 9 as follows:*

The bottom value VB and the peak VP of the output signal from the gain variable amplifier 255 are detected by a bottom detection circuit 257 and a peak detection circuit 258, respectively, via a buffer amplifier 256. The detected bottom value undergoes A/D conversion at an A/D converter 259 and the converted data are stored in a data storage unit 261. At the same time, a voltage VPB representing the difference between the peak value and the bottom value is extracted at a differential amplifier 265, and the data obtained by implementing A/D conversion on the voltage VPB at an A/D converter 266 are stored in a data storage unit 268. This operation may be executed at a

*93*  
*cwt.* predetermined temperature as in the first embodiment. When operation 1 is completed, operation 2 is enabled through mode setting 2.

*94*  
*Please amend the paragraph beginning on line 4 of page 12 as follows:*

The laser diode drive circuit according to the present invention may be adopted in An an optical transmission system having An an optical transmission circuit that converts an electrical signal to a light signal and transmits the converted signal. In addition, application of the present invention is not limited to an optical transmission system and may be adopted to achieve temperature compensation and degradation compensation for any circuit that converts an electrical signal to a light signal by using a laser diode as well as in An an optical transmission system.